

Application No. 10/730,433

Attorney Docket No. ACH-29'17 US

**REMARKS**

Claims 1 - 10 remain in the case. All claims stand rejected.

**35 USC 103**

With respect to claim 1, Kramer discloses a process for the hydroconversion of a heavy hydrocarbon feed utilizing a mixture of catalyst having different functions, but primarily having different densities such that the residence time of each catalyst in the reaction vessel may be controlled independently. The only reference to pore size distribution appears in the single paragraph cited by the Examiner at Col. 32, line 66 – Col 33, line 6. This single reference to pore size distribution only discloses that the catalyst (either of the two or more catalysts having different densities) has at least about 50% of its pore volume in pores having a diameter within the range of about 100 Å to 300 Å and less than about 20% of its total pore volume within the range of 0 to 100 Å. As pointed out by the Examiner, Kramer does not disclose all of the limitations of Applicant's claim 1. In fact, Kramer does not disclose a catalyst meeting the pore size distribution limitations of either of Applicant's catalyst I or catalyst II.

The Examiner argues that it would have been obvious to one having ordinary skill in the art to combine the mixed-catalyst process of Kramer with the catalyst disclosed in Schindler to arrive at the Applicant's instant invention. However, the Applicant submits that the Examiner has failed to establish a prima facie case of obviousness because 1) there is no motivation to combine the two references, and 2) even if there were a motivation to combine, the combination would not result in the Applicant's invention.

"Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination." *See In re Geiger*, 815 F.2d 686, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987). Schindler discloses a catalyst having an improved hydrotreating activity and catalyst life, however, it is not the pore size distribution that effects the performance of the catalyst, but rather that fact the Schindler catalyst is calcined at a temperature between 1150°F and 1300°F. See Schindler, Col 1, lines 36-42. The Applicant's catalyst system is calcined at 600-900°C (1112°F-1652°F). Thus there would be no motivation to use Schindler's invention because Applicant already calcines at temperatures in the range disclosed by Schindler. There is absolutely no suggestion in Schindler

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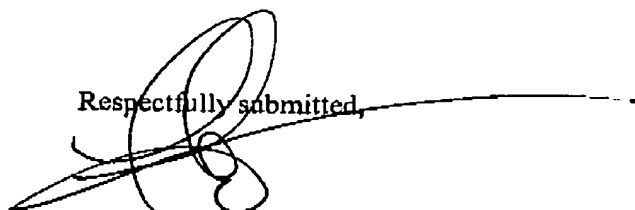
that by controlling pore size distribution of a catalyst in heavy hydrocarbon hydroprocessing service one may improve asphaltene removal without sacrificing mechanical strength. In fact, Schindler does not discuss these parameters at all.

Moreover, even if there were motivation to combine Kramer and Schindler, the combination would not result in Applicant's invention. Neither Kramer nor Schindler discloses all of the limitations of claim 1, more specifically, neither reference discloses a catalyst having 5% of its pore volume in pores having a diameter greater than 1000 Å in order to improve asphaltene removal without decreasing mechanical strength, and neither reference discloses that one of the catalyst in the mixture of catalysts must have a larger percentage of pore volume in pores with a diameter of at least 200 Å.

Based on the foregoing, Applicant submits that claim 1 is in condition for allowance, as are all claims that depend on claim 1. Further, Applicant submits that claim 7, as well as any claim that depends on claim 7, is in condition for allowance for the same reasons as outlined above.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case. The Examiner is encouraged to contact Applicants' attorney should the Examiner wish to discuss this application further.

Respectfully submitted,



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